COOKIA

Journal of the Wellington Shell Club, New Zealand
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EARTHQUAKE!

Aestivation of LAND SNAILS

STORIES Of the Solomons

2017 *Australian Shell Show*

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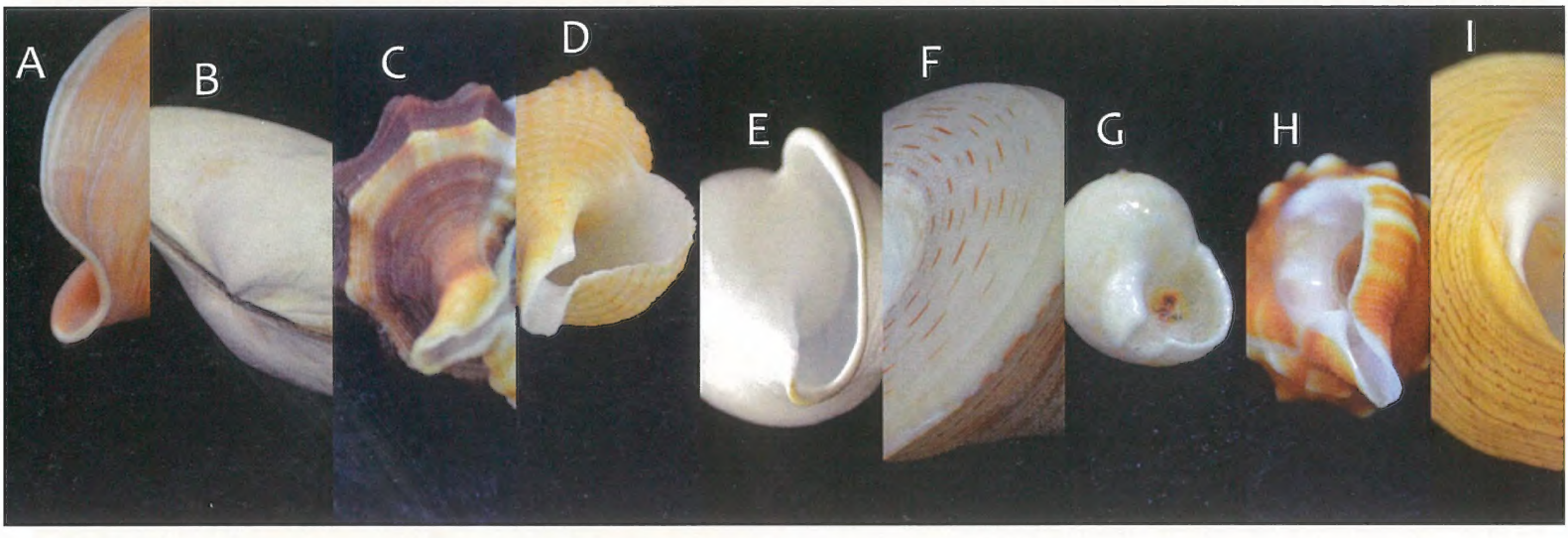

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Contents

Cookia Volume 29, 2017

	PAGE
EARTHQUAKE! by Bev Elliott	2-6
WARD BEACH, CAPE CAMPBELL & MARFELLS BEACH by Kerry Walton	6-7
MARFELLS BEACH by Pete Cresswell	7
AESTIVATION OF LAND SNAILS by Pat Lakeman	8
QUEENSLAND DIARY by Heather Smith	9-11
NOTES ON NZ COLLECTED SPECIES by various contributors	12-15
***CORBICULA FLUMINEA* (Müller, 1774) FROM PORTUGAL** by Bert van Tiggele	16
AUSTRALIAN SHELL SHOW 2017 by Pat Lakeman	17
DREDGING PELORUS SOUND by Kerry Walton	18-19
IS IT A BIRD, IS IT A BEER – OR IS IT A BOAT? by Jill Burnet	20
STORIES OF THE SOLOMONS by various contributors	21-27
SHELL CLUB TRIP TO GREAT BARRIER ISLAND by Jenny Raven	28-31

Editorial

The Wellington Shell Club committee is investigating the feasibility of holding another shell show, possibly in the spring of 2018. If it happens, it will as usual take a lot of work by a lot of people. If, however, club members step up to help in the way they typically contribute to producing *Cookia*, it should be no problem!

Yet again a high proportion of our membership – 20 members, plus 2 non-members – have contributed to this issue of *Cookia*. It is a pleasure to edit such a highly supported component of our club activities – many thanks to all.

Cover photo: Jim Harding's beautiful *Bassina yatei* (Gray, 1835) which he found at Waikanae Beach 'a few years' ago'. (Jim Harding)

Earthquake!

by Bev Elliott

Midnight! Monday 14 November 2016 has arrived.

12.01 am: This is going to be a great day! Four eager Kaikoura trampers are going to leave shortly after daybreak for a tramp that has taken a lot of planning. Vernon Bluffs, on the coast between Blenheim and Seddon, requires a spring low tide in the middle of the day, and fine calm weather. Bev, the leader, has been there several times before, and has always wanted to share this spectacular place with other Tramping Group folk. Ron has been there once before, and is eagerly looking forward to going again. Ailsa and Jenny have been wanting to go for years, but were never available when conditions were right. This time, with a whole week of 0.2 m low tides to choose from, surely these two busy ladies could select a day when both of them could go. Several phone calls later, Monday 14th was chosen. Soon we'd be walking past those spectacular towering cliffs, glowing in the morning sunlight. Ailsa would be taking hundreds of photos, and Bev would be looking out for more shells. All of us would be enjoying a wonderful scenic tramp.

12.02 am: WHAM! The earth heaved, the house jolted, creaked, groaned and shuddered. It went on and on and on; I've heard estimates from two minutes to half an hour. I just stayed lying on my bed, as it seemed safer to stay put than to try to get outside. I've heard that others were flung off their beds, but thankfully it wasn't that violent here. I didn't think I'd be able to get out, but when the wild ride finally subsided, the sliding door opened without its usual resistance, and I was outside, on a fine warm night with a full moon above. I was soon joined by Ted and Ailsa from next door. They said everything had landed on the floor. One rather funny incident was that Huia, their Labrador, was half buried in a cascade of dog biscuits, and was too traumatised to take advantage of her good luck!

Ailsa declared that she was NOT going to Vernon Bluffs. I thought that decision was a bit premature; after all, Kevin, another member of our Tramping Group, had led a very successful tramp on 4 September 2010, a few hours after the big Christchurch quake, and right on the fault line too. But that was a different fault line and a different epicentre. This time it was much closer to home. At this stage I had no idea that the roads north and south of Kaikoura were closed by enormous slips. Ron arrived, and I was too befuddled to understand why he had come up here in the middle of the night. I'd forgotten that Civil Defence had been bombarding us about tsunami threats for years. Ron wasn't going tramping either – he'd already negotiated a badly damaged area of road, driving up here from his South Bay home.

Bev astride a fissure on SH1, north of Kaikoura

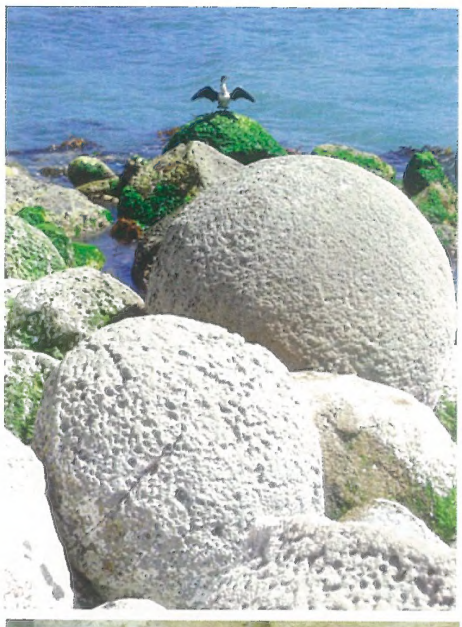
Every time I tried to re-enter my house, another jolt or creak sent me scurrying back outside. I was glad to be one of those despised freedom campers, with my fully equipped "spare bedroom" parked right at my door. It seemed a safer place than my house to spend the rest of the night, and there were a few other folk in their vehicles nearby too. I slept fairly well.

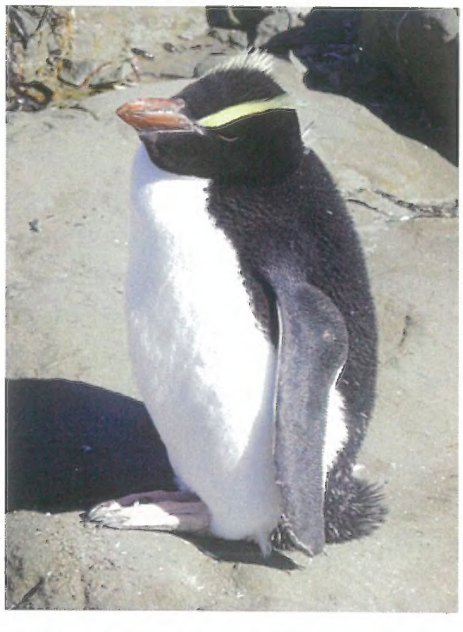
In a previous article in *Cookia* I mentioned the possibility of there being a connection between spring low tides and earthquakes. Back in 2011, Ken Ring's false predictions of a magnitude 8.0 quake at 12.08 pm on 20 March made me look up the tide chart to see if that was going to interfere with shelling that I'd planned. Sure

enough, the best low tide was going to be at midday on 20 March. So I checked back to the 22 February date and time of the big Christchurch quake – yes, right on the spring low tide. What about 4 September 2010? Not as close as the others, but within the period of spring low tides. I didn't really believe Ken Ring's predictions, but coupled with other rumours about a tsunami that was going to come right over the Kaikoura peninsula (though not quite up to my home), I went off inland that weekend. The only thing that happened was that I had a pleasant week's tramping out back country, and felt a lot safer than I would have at home. Fiddlesticks to Ken Ring!

Nevertheless, it's hard to dismiss the fact that both the big Christchurch quakes were close to spring low tides. And so was our latest one! At midnight we were all safe at home in bed. Just 12 hours later, on that midday spring low tide, if the Vernon Bluffs cliffs reacted anything like the cliffs around Kaikoura, we'd likely have all been killed. Even if by a miracle we had got back to our vehicle, we certainly wouldn't have been able to drive back to Kaikoura. I told Ted about the big quakes happening at spring low tides and he ridiculed the idea. He's an ultra-clever computer whiz who knows just about everything and has apparently done zillions of computer calculations that prove there is no connection. If you want to continue enjoying your low tides, you'd better believe Ted and not me, but I wonder if any of you have any comments to make on this theory?

Monday 14th: At daylight I began cleaning up the mess. In the dark I hadn't even been aware of anything falling. Rocks, books, ornaments, photo albums etc had landed on the floor, and some glass items were broken. But an amazing amount of them had stayed put. They badly needed dusting anyway, so it was a good chance to take down the rest and do some spring cleaning. Not even one drawer of shells had worked loose and spilled. And no structural damage to my house was apparent. Some broken pipes under the hot water tanks were leaking. And that's all. I was incredibly fortunate and most other folk around here likewise. But further inland, some others have suffered utter devastation. At about midday I thought I should go down to Kaikoura and check the church building. I'd hardly left home when I spotted the low tide – I'd never seen anything like it! No way am I going down there; that could be a warning of a coming tsunami! But then I was told that the tsunami had come in the night. What had happened was that the entire peninsula had lifted one to two metres, and the rocks were exposed that much further out of the water, and the small tsunami probably didn't come beyond normal high tide. I don't know how much other area has been lifted up – at least as far as Cape Campbell, so I've been told. So later in the day I went down to Kaikoura. You would hardly notice that anything had happened. A few small cracks here and there in the roads. The top of the War Memorial lying on the ground. The shops looked normal from outside, though a mess within. The church was okay; the communion table tipped over, and that's all. The historic Presbyterian church building was okay, but their beautiful pipe organ was badly damaged.





Photos from top right: Round boulders complete with seaweed, limpets & barnacles, thrown up out of the sea at Amuri Bluff, south of Kaikoura, where uplift was 4-5 m; zoophycus, Kaikoura Peninsula, about 1 m in height; Erect Crested Penguin moulting at Kaikoura Peninsula Feb 2017

Tuesday 15th: I ventured onto the beach and rocks for the first time. There was nothing to collect. Just rocks covered with limp, bedraggled seaweed. The Aquarium was closed, and three weeks later I have not seen it open, so have no idea whether there's any future for it, but it is white -stickered so the buildings must be okay.

Wednesday 16th: Annie Cox and I had a look on the low tide at South Bay. I went out on to Baxter's Reef, which is usually well over knee deep on the very lowest tides, but now one can get there almost dry-footed. I didn't find anything. Annie found a *Eudoxochiton nobilis* (Gray, 1843) and some sea eggs.

Thursday 17th: Phones (at least some of them) were restored in the evening. Mine had been working all along, but only to close neighbours. Now I had a deluge of calls, ranging from Great Barrier Island in the north to Invercargill in the south. I felt like some sort of celebrity! Thank you, Wellington Shell Club, for your concern.

Friday 18th: I walked across to 'Seal Island', the reef at Keane Point. Usually it's from knee deep to a metre deep at low tide, but now one can cross the channel dry-footed. Just more dying seaweed. Nothing of interest at all, except that it's interesting in a desolate sort of way to see it looking so different. Several warships were out in the bay. The help brought to us by sea and air has been phenomenal, but by road and rail we are still cut off from the rest of the world, and may be for a very long time.

Saturday 19th: The last of the 0.2 m tides. Ailsa and I walked down to Armers Beach. I found a live *Buccinulum pallidum pallidum* Finlay, 1928.

14 May 2017: Just 6 months on from our 7.8 earthquake - should be a good time to start putting together some notes on our devastated but recovering wildlife. Suddenly, on 14 November 2016, we were a metre higher than before. The mobile marine creatures could move lower, but the inter-tidal marine life died *en masse*; *Cellana denticulata* (Martyn, 1784) was among the worst affected, with many thousands dying. But one species' loss was another's gain. The red-billed gulls, embarking on yet another disastrous breeding season, suddenly had an abundant food supply right on their doorstep, and a very successful season followed. I was lucky to hear a very interesting talk by Jim Mills, who has been studying the gulls for 50 years.

Everything was polluted, and we were inundated with new rules. No water, no baths, no showers, no swims in the sea, no swims in the rivers (but take great care of your personal hygiene … how?) No seaweed, no shellfish, no marine life; the ban on fish and crayfish was lifted after two weeks, but the ban on seaweed and shellfish, all the way from Marfells Beach to Conway Mouth, is as permanent as the powers -that-be want to make it, and I don't suppose anybody knows whether it means a total ban on picking up <u>any</u> shells, or <u>any</u> seaweed for garden compost, or whether it only means no taking of sea life for food. Certainly the local surfers have been having a wonderful time, polluted water or not, and I haven't heard of anybody trying to stop them. Nor have they stopped me from picking up rubbish … plus any other things that may be on the beach. With fewer tourists around, there is a lot less rubbish than usual. I found out the hard way that the polluted water was for real. I didn't think there'd be any harm in

Left: Part of SH1 north of Kaikoura. Right: Better days: sunrise and full moon near Cape Campbell, taken during the Wellington Shell Club field trip in August 2016

swimming away out at the end of the peninsula over three months after the quake, but my leg got infected. A quick trip to the doctor stopped it getting worse, but it took weeks to heal.

An erect-crested penguin came here to moult. I don't know how it survived a constant stream of visitors as it stood in one place for 15 days, but it did.

18 February 2017: A good day for me, seeing the penguin in its fresh new plumage on its last day here, and the same day I found another *Nerita melanotragus* E.A. Smith, 1884, a third one for Kaikoura in 40 years, this time on the northern side of the peninsula.

Scutus breviculus (Blainville, 1817) was one of the commonest species washed ashore. You would think they could easily have moved to a lower elevation. Aquarium news = no news. Megan the curator moved to Australia shortly before the quake. Janelle, who took her place, came into the museum one day to see me. She hopes to get the aquarium up and running again someday, but has to find a new venue. I presume the polluted water would have quickly killed every creature in their tanks, and collecting any more live creatures will possibly be forbidden for a long time.

Whales and dolphins have survived, and tourism carries on much slower than before. Seals have survived, and are breeding quite prolifically on Kaikoura peninsula. Ohau Point is off limits to the public, having collapsed in the quake, but there wouldn't have been many seals there in November. I'm told that the man-made structures have survived, for viewing the seal colony just south of the point, and for visiting the baby seals at the waterfall pool just north of the point. So perhaps in time it will all return to normal. The Hutton's shearwaters have survived, but it's likely their numbers have been drastically reduced by millions of tonnes of scree tumbling down over their breeding area, right in the middle of the breeding season.

Wellington Shell Club was lucky to get that field trip to Cape Campbell last August, three months before the quake. We were shown a map of where all the aftershocks have occurred, and the cluster of dots at Cape Campbell showed it to be one of the most active areas of all.

We have permanent low tide at Kaikoura now. That likely applies all the way from Oaro, south of Kaikoura, to Cape Campbell in the north. Further south at Amuri Bluff, the land appears to have sunk a little, creating permanent high tide. I was lucky to get three trips down there while the main south road was briefly open during the summer. Shells were extremely scarce. One wonders whether either the south road or the north road will ever be safe to use again. Every time it rains, even lightly, it causes havoc with more slips.

29 March: This was a turning point for me, four and a half months after the quake, when I found living healthy sea creatures for the first time. Three types of sea star: *Diplodontias*, *Pentagonaster* and *Patiriella* species. Three mollusc species: *S. breviculus*, *Haliotis australis* Gmelin, 1791 and the sea hare *Aplysia juliana* Quoy & Gaimard, 1832 (and eggs). And some nice sea anemones.

14 April: I saw three live golden limpets - *Cellana flava* (Hutton, 1873) – so hopefully that species will recover and replenish the colony that has been hard hit.

24 April: Looking for *Montfortula chathamensis* Finlay, 1928, which are limited to such a tiny area, I wonder if they can possibly have survived. I found 16 dead ones in about two square metres, but no live ones.

6 May: Went to Atia Point to look for the chiton *Plaxiphora boydeni* Murdoch, 1982, another species that appears to be confined to a very limited area. Although it was a lovely calm, fine day here, Cyclone Debbie must have been sending those big waves crashing in, and I didn't dare go near '*Plaxiphora* rock'. But I did get one unusual mollusc; a certain seal must have been having a bad time with her breakfast, and I spotted a chunk of squid among the revolting mess, and having persuaded the reluctant seal to move off a bit, I obtained a nice pen and beak of *Nototodarus sloanii* (Gray, 1849) for my collection. It's lovely to see live cat's eyes, crabs and chitons getting established again under stones.

22 May: Looking for *M. chathamensis* again; another 16 dead ones in the same two square metres, and HOORAY! Three live ones, so the little colony has made a start at recovery. And a *Cominella elegantula* (Finlay, 1926), 30 mm. While these are common as fossils further down the coast, big beauties too, recent ones are extremely rare, and in scruffy condition. This one has a good spire and protoconch, but the body whorl is a bit rough. I also got two *Dentimargo cairoma* (Brookes, 1924) in shell sand.

25 May: Plenty of *A. juliana*. I didn't actually count them – maybe 40 or 50, and lots of their eggs. They've been so rare for so long and now they are common. I was pleased to find a dead one, to give me a shell for the collection, as I didn't want to kill one for so little. I also saw a lovely

Plaxiphora biramosa (Quoy & Gaimard, 1835) with a bright red girdle, which I didn't collect. And a *Plaxiphora egregia* (H. Adams, 1867) washed ashore.

26 May: As I walked out to Atia Point this morning, I was thinking of Jenny Raven and her happy band of adventure seekers setting off for Great Barrier Island. I'm so thankful I'm not trying to get there with you, with our roads to the north and south still closed. It would take twice as long to get to Christchurch and four or five times as long to get to Blenheim, via the inland route. And where could be better than Kaikoura peninsula, on a glorious fine morning with a new moon low tide, and the sea almost calm this time. And *P. boydeni* are still there, but lower down, a cluster of them, looking like little woodlice. And live *Notoacmea scopulina* Oliver, 1926, live *Cellana strigilis* (Hombron & Jacquinot, 1841), several live *Haustrum lacunosum* (Bruguière, 1789), also the first live *Haliotis iris* Gmelin, 1791 I've seen since the quake. I can't have a paua patty for my tea, as they're ultra-protected, but it was so good to see them.And so it appears that life in the sea is returning to normal, and maybe the little sea creatures are even doing better than some of us humans on land, many of whom have multiple quake-related problems. But no nudibranchs sighted yet!

Ward Beach, Cape Campbell and Marfells Beach in January 2017

by Kerry Walton

In mid-January, two months after the Kaikoura quake, Bruce Marshall and I spent a couple of days in the Marlborough Region to have a look around and see what effect the quake had had on the coast. Some of the most impressive features resulting from the November earthquake were the raised coastal platforms between Marfells Beach and Kaikoura. The elevation gain ranged from zero up to five metres, with large stretches of coast one to two metres higher than before the quake. Areas of uplift were predominantly slabs between faults - these were tens of metres to tens of kilometres across and the boundaries (fault scarps) were sharply defined. Indeed the roads appeared reasonably undamaged save for sudden drops or jumps of up to half a metre every few hundred metres that had been smoothed out with gravel to allow cars to pass as an interim measure, at least as far as Clarence where the road remains closed even now (February), many months later.

At Ward Beach the uplift ranged from one and a half to two metres, and where the beach used to be gravel with rocky reefs predominantly beginning at low-tide, now the beach was fringed with a large permanently exposed rocky shelf extending about 15 m. These platforms were liberally covered in dead and drying seaweed and the rock runnels were littered with dead *Micrelenchus* spp., *Cellana* spp. and *Axymene traversi* (Hutton, 1873). Relatively few larger gastropods were present such as *Cookia sulcata* (Lightfoot, 1786) and *Argobuccinum pustulosum* (Lightfoot, 1786), and surprisingly, considering the media attention and some widely circulated photos that suggested otherwise, paua (all three species) were very few and far between, alive or dead. High-tide dwelling species like littorinids, some species of

Left: Ward Beach, 11 January 2017. Right: Marfells Beach 12 January 2017

Cellana, siphonariids and so on appeared locally extinct but would likely soon recolonize the area as most have a short pelagic larval stage and some sections with less uplift were interspersed along the coast where, presumably, they survived.

At Cape Campbell the uplift was less severe, between 0.5 m and one metre, and other than some bull kelp from the upper bounds of its low-tidal habitat, few species appeared dead or displaced. Interestingly we found three octopus in less than half an hour pottering around the new mid-tide zone. Whilst common octopus occasionally occur in inter-tidal pools, to find three would be very unusual under normal circumstances as they predominantly dwell sub-tidally. All three were in well-established 'hides' (octopus holes) with remains of prey items scattered around (crab carapaces and empty larger gastropods, mainly *Haliotis iris* Gmelin, 1791 and *C. sulcata*) - it may be that they have chosen to retain their 'homes' despite the sudden change in elevation. The seals appeared unfazed.

At Marfells the uplift was about one metre and was most noticeable along the beach itself and the first set of rocky reefs rather than further out towards and at Mussel Point. Many dead *Cellana* species and trochids (mainly *Micrelenchus tesselatus* (A. Adams, 1853) and *M. tenebrosus* (A. Adams, 1853) were evident but we also saw a *Cantharidus puysegurensis* (Powell, 1939) - a new record - but not much else. It will be interesting to see how the in-faunal bivalves such as pholadidids and *Irus* spp. and associated commensals such as *Arthritica bifurca* (Webster, 1908) fare but 'before' observations on density and ratios of dead:alive individuals are rather circumstantial.

A moderate aftershock hit as we were leaving Marfells Beach and was centred less than 10 km away, but we felt nothing and had likely just got into our car. When we pulled into the pub we had a few worried texts.

Marfells Beach in April 2017

by Pete Cresswell

Mike Young and I visited Marfells Beach on Saturday 29 April. In part to photograph limpets for an Italian colleague and in part to eyeball the continuing effects of the 7.8 magnitude Kaikoura earthquake of 14 November 2016.

In the stretch that was visibly covered with decaying seaweed and green algae, it was clear that recovery was going to be particularly slow. Searching for limpets, it was very apparent that there remained a significant reduction in intertidal molluscan species. Other than a few *Sypharochiton pelliserpentis* (Quoy & Gaimard, 1835), no chitons were found. The undersides of even low-tidal rocks held almost no living animals. We found few limpets – very few *Cellana flava* (Hutton, 1873), only a single *C. radians* (Gmelin, 1791) and a modest number of *C. strigilis* (Hombron & Jacquinot, 1841).

Large numbers of three species of dead pholadidids were everywhere – in rock holes and scattered intertidally. Amongst rocks lay piles of dead shells, mainly bivalves – with a few live *Spisula discors* (Gray, 1837) recently uncovered by wave action.

In short, a scene of biological devastation. It will be years before recovery is complete. Which is not to suggest a visit is not worthwhile. Just be aware of the signs prohibiting the taking of shells…

Top: Pholadidids
Bottom: Marfells Beach 29 April 2017
Photos: Mike Young

Aestivation of land snails - never say die!

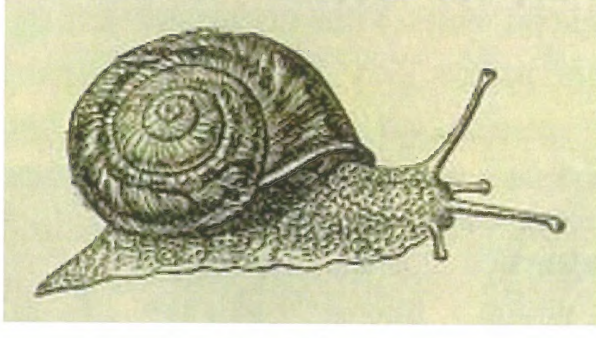
by Pat Lakeman

While working at Te Papa recently I determined a specimen of land snail to be *Eremina desertorum* Forskål, 1775, of the family Helicidae. I had to check very carefully to be sure that it was dead. Because a specimen from Egypt, in the British Museum, and thought to be dead, was glued to an index card in March 1846. But in March 1850, it was nevertheless found to be alive.

The Canadian writer Grant Allen observed: "The Museum authorities accordingly ordered our friend a warm bath (who shall say hereafter that science is unfeeling!), upon which the grateful snail, waking up at the touch of the familiar moisture, put his head cautiously out of his shell, walked up to the top of the basin, and began to take a cursory survey of British institutions with his four eye-bearing tentacles. So strange a recovery from a long torpid condition, only equalled by that of the Seven Sleepers of Ephesus, deserved an exceptional amount of scientific recognition."

In fact the ability of some land snails to withstand desiccation is remarkable, and aestivation (from Latin: *aestas* meaning summer) is one of the ways they manage it. Aestivation is a state of animal dormancy, similar to hibernation, characterized by inactivity and a lowered metabolic rate, which is entered in response to high temperatures and arid conditions.

As Burton, in his delightfully titled "How to be Sluggish", points out: "Being a soft-bodied, succulent, fleshy water bag in a dry environment poses problems, which range from simply drying out, through being stepped on, to being leapt on with greed by some heartless predator. On the face of it, a land mollusc seems a highly unlikely proposition, but the terrestrial molluscs have evolved satisfactory answers to the daunting array of potential disaster which confronts them, and have done it so successfully that they can be found in large numbers in an extraordinary variety of habitats all over the world.



The revived British Museum specimen (Woodcut, after a drawing by A. N. Waterhouse, from 'A manual of the Mollusca' (1851), by Samuel Pickworth Woodward.

These habitats do not include only the moist areas; snails are common in many arid areas, and can be spectacularly successful in withstanding desiccation. ….. This ability to wait through dry conditions has often been noted — the West Australian camaenid snails are good at it, as are the South Australian helicellids, many African Helicidae, and the prosobranch land snails of the Khasi Hills of Assam. Many deserts of the world have their populations of land snails, all waiting patiently for the rains to come.

The ability to retain water is the key factor for a snail living on land. Snails are inveterate hypochondriacs, constantly fretting about their water balance, and modifying their entire lifestyle to keep that balance within allowable limits. Obviously, there are basic structural adaptations involved, but modifications to behaviour patterns, such as a nocturnal habit, the ability to seek out moist micro-habitats, and the ability to aestivate are also important."

Organisms which aestivate appear to be in a fairly "light" state of dormancy, as their physiological state can be rapidly reversed, and the organism can quickly return to a normal state. A study done on *Otala lactea* (Müller, 1774), a snail native to parts of Europe and Northern Africa, shows that they can wake from their dormant state within ten minutes of being introduced to a wetter environment. Fossil records show that the act of aestivating may be several hundred million years old.

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https://en.wikipedia.org/wiki/Eremina_desertorum

https://en.wikipedia.org/wiki/Aestivation

Queensland diary

by Heather Smith

The phone rang. "The tides are lowest at Dingo Beach before the Townsville and Yeppoon Shows!" It's Jenny Raven from Wellington calling!

So on 21 June 2017, Jenny and I met at the Brisbane Domestic Airport Terminal and took the 1 hour flight north to Proserpine where we hired a rental car, bought five day's supply of food and headed off to our favourite Dingo Beach. Dingo had been through the full onslaught of hurricane Debbie earlier in the year so we were wondering what we would find. The main building had minor damage but the trees looked like distraught, grotesque sculptures. The army and volunteers had been through and cut off all broken branches. These had been mulched and were spread over a wide strip along the edge of the beach. Every time we approached the beach, walking across this strip reminded us of the disastrous damage cyclones can inflict on the landscape. I kept asking myself what happened to the birds during this catastrophic event.

We enjoyed the end unit downstairs although it did have a few issues. The pump outside groaned all night for two nights until water tankers arrived and we never heard the pump again. But on flushing our toilet after the arrival of the water, our toilet screamed. We couldn't stop the scream so around 9pm we called for help. Eventually a lovely woman arrived - she was the owner whom we had never met before. We chatted. She woke a male handyman and the problem was solved and we had made friends with the owner!

But the main reason we were there was to enjoy the extreme low tides, walk miles out on the sandy flats, even crossing over to the island only accessible on low tides and looking for the occasional shell. Jenny and I love walking in the large expanse, the fresh warm air, the blue sky and the solitude, and the occasional shell was just icing on the cake!

We weren't disappointed. For New Zealanders all the shells are interesting because none of them grow in our cooler home waters. Between us we found live *Conus textile* Linnaeus, 1758, *Lambis lambis* (Linnaeus, 1758), *Phalium bandatum* (Perry, 1811), *Terebra subulata* (Linnaeus, 1767), *Oliva vidua* (Röding, 1798), *Euprotomus aurisdianae* (Linnaeus, 1758), *Conuber incei* (Philippi, 1853), *Polinices mammilla* (Linnaeus, 1758), and an immature *Melo amphora* (Lightfoot, 1786) along with many, many *Conomurex luhuanus* (Linnaeus, 1758). Numerous bivalves were also collected including *Tellinella virgata* (Linnaeus, 1758) and *Tapes literatus* (Linnaeus, 1758), and hermit crabbed shells and beached shells. Jenny found several of the poisonous textile cones, half buried in sand under large rocks at Nellie Bay along with a lovely *L. lambis* under one of the larger rocks. We also visited Hideaway Beach. A number of very large, red star fish lay on the sand out near the rocks on the way to the island.

Having befriended the manager we left with a Dingo Beach tea shirt and hat each, as well as a great haul of shells. Then we enjoyed two nights at Bowen with Trevor and Marguerite Young. Their home at Airlie Beach had been damaged in cyclone Debbie so they were spending two months in a motel at Bowen. Great for us, because they took us on a guided tour

The Townsville Shell Show, 1-2 July 2017

of Bowen showing us many beaches, and the pub served a yummy lunch. Jenny and I shelled near the Bowen wharf and found *Laevistrombus canarium* (Linnaeus, 1758).

On Wednesday 28 June we arrived at Marion and Jack Worsfold's home in Townsville and began preparations for the Townsville Shell Show. Like all shell clubs there seem to be less and less local people available to help with preparations, but numerous people arrived on Thursday evening to set up tables at the Orchid Society Hall, which made Friday an easier day preparing exhibits. As usual it was a very successful show with more visitors than I have ever seen before. Often the venue was packed with people admiring the exhibits and buying a few shells from the dealers. I was treated to winning the Visitors' Choice trophy and the President's Choice, with my tray of Shells and Stamps. I also picked up the Shell of the Show Award with a very large and beautifully sculptured *Epitonium scalare* (Linnaeus, 1758). Marguerite and Trevor had entered a stunning black *Mauritia mauritiana* (Linnaeus, 1758), and questioned whether my *E. scalare* was real! I made a deal with them - at the end of the show they could hold my *E. scalare* if I could hold their *M. mauritiana*! (And when we got to the Yeppoon Show their *M. mauritiana* won Shell of the Show!!) Jenny won Four Shapes, 5 shells of each; I won a coloured shell section. Jack and Marion are wonderful hosts and that always helps make our trip so much more enjoyable and financially affordable.

After the Townsville Show, on Tuesday 4 July, we drove north for about an hour, to arrive at Balgal Holiday Units, just walking distance from Balgal Beach. A beautiful, inexpensive place to stay. We spent one night here enjoying beach walks, though we found no shells to speak of. The evening was spent at my nephew's 60th birthday celebrations. The next day Jenny and I headed south - about 5 hours driving - to a place called Mirani, inland from Mackay, where Daphne Ruthenburg lives. We spent a delightful evening talking about shells and shell shows. Daphne had been up to the Townsville Show but had not been well and sadly decided not to join us

Heather's display of "50 Pectens under 50 mm".

for the trip south to the show at Yeppoon. Jenny and I left next morning for the 5 hour journey to Rockhampton and out to Yeppoon on the coast. Ena Coucom is aways so welcoming and we spent the next five nights with her enjoying the Keppel Bay Shell Show. Once again a smaller number of local people available to help with all the preparations but visitors from many parts of Australia there to help and the local people doing double their normal tasks! This was their 50th show so they have had plenty of practice at running an amazing event. The room looked great with the tea towels hanging over newsprint around all the tables, and some new motifs of shells in between. In numerous display classes we had to exhibit 50 shells under 50 mm. This takes some time to pack and unpack, so I was pleased to win Cypraeidae and Mitridae, and also 20 Gold Shells. On Saturday night we all headed to the Bowling Club for dinner, the prize-giving and the always interesting multi-draw raffle. Sunday was another busy show day, with pack up later in the afternoon.

On Tuesday morning we said our farewells and headed for Rockhampton Airport. A quick flight down to Brisbane and Jenny headed off to Wellington and I to Auckland. Jenny and I have enjoyed a similar trip each year over the last 10 years, and appreciate the wonderful friends that we have made through our mutual interest in shells.

Footnote: I joined Auckland Shell Club in 2000. In 2004 I heard about a certain Bob and Betty Grange who were shell collectors and lived in Houhora in the Far North of New Zealand. On more than one occasion I called at their home to meet them only to be told they were in Australia enjoying two shell shows. I had never heard of such a thing! Eventually I met these two lovely people and for the first time in 2006 I travelled with them to the shows at Townsville and Yeppoon. Each year after that Jenny and I have followed in their footsteps! Betty passed away a number of years ago, and Bob, who enjoyed his 90th birthday earlier this year, died in August 2017.

Clockwise from top: The beachside accommodation enjoyed by Heather and Jenny at Dingo Beach; three of Heather's shells displays, including the display of shells and stamps which won the Visitors' Choice and President's Choice awards at the Townsville show and her winning entry in the "20 Gold Shells" class which celebrated Keppel Bay's 50th shell show; starfish on the sand at Hideaway Bay, just to the north of Dingo Beach, and a selection of the shells collected by Heather at Dingo Beach.

Notes on NZ Collected Species

Oppomorus noduliferus
(Menke, 1829)

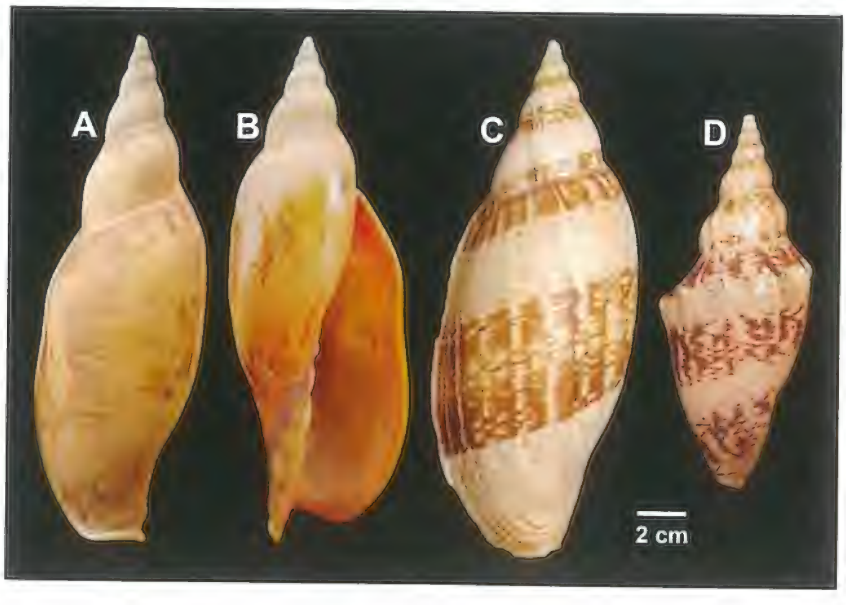
After about 15 years of unsuccessful searching, I stumbled across a small population of this species on the Karikari Peninsula in June. They ranged in size from about 15 mm to one about 20 mm in height.

ANDREW SPURGEON

Notocochlis cernica (Jousseaume, 1874)

This *Notocochlis cernica* is the largest one that I have ever found and measures 19.5 mm tall and 20 mm wide. It was in a small rock pool on the Karikari Peninsula, at low tide with a hermit crab in residence, in June 2017.

ANDREW SPURGEON



Alcithoe fissurata (Dell, 1963), *Alcithoe fissurata crassa* Bail & Limpus, 2005, *Alcithoe seelyeorum* Bail & Limpus, 2005

The choice specimen of *A. fissurata*, shown A and B at left, measures 193.5 mm and was trawled from 180-200 m off the Cavalli Islands in July 2017. It has the best lip I have ever seen in this species. The volutes shown C and D were taken, crabbed, from craypots near the Three Kings Islands during a trip I made in March 2017. The *A. fissurata crassa* (C) measures 196.6 mm; the *A. seelyeorum* (D) is 145 mm with a thin lip but very good colour and condition.

KEVIN BURCH

Penion cuvierianus jeakingsi
(Powell, 1947)

This specimen measures 227 mm, and was taken at 130-140 m, off Ninety Mile Beach.

KEVIN BURCH

Psilaxis oxytropis
(A. Adams, 1855)

Washed up in Great Exhibition Bay in October 2017, this shell measures approx. 14 mm. The similarly rare (in New Zealand) and superficially similar species *P. radiatus* (Röding, 1798) differs in having a smaller protoconch, shorter anal keel lined with brown, a narrower umbilicus and a differing teleoconch coloration with more sharply defined white blotches on the periphery and less prominent spiral colour-bands.

KATHY CARSON / KERRY WALTON

Reference: BIELER, R. 1993. Architectonicidae of the Indo-Pacific (Mollusca, Gastropoda). Abhandlungen des Naturwissenschaftlichen Vereins in Hamburg 30, 1-376

Galeodea plauta Beu, 2008
Galeodea triganceae Dell, 1953

The specimen of *G. plauta* (top) measures 43.35 mm and is from 550-600 m, off Tauranga. This is a white shell which, although crabbed, is in very good condition. It has much finer spiral cords and a more bulbous shape than *G. triganceae* (bottom), which was taken from 450 m on the Chatham Rise, and measures 41.45 mm.

KEVIN BURCH

Argonauta nodosus Lightfoot, 1786

Earlier this year the Wellington south coast experienced extreme surges, including a report of a 19.4 m wave. On 28 May 2017, I took a quick look at the aftermath. I found a complete specimen of *Cardita distorta* Reeve, 1843 which was pleasing for me as I had only found single valves previously. But there seemed to be little else of interest so, feeling as though I had explored everything, I turned around and started my walk back to the car. As I walked up a small bank by chance I happened to look down at the grass near to where I was stepping. It was a good thing that I minded where I put my feet, as nestled in the grass was a paper nautilus! I could see that the grass where it was lying – about 3 m above the high tide line on the point between Waitaha Cove and Houghton Bay - had been hit by high waves. This is the smallest example of *A. nodosus* that I've ever seen, and perhaps a challenger for smallest paper nautilus with a length of only about 32 mm. Despite its small size, a few chips and a small hole, it was and still is very exciting for me to have found my very first paper nautilus.

JASON PLAISTED

Bursa verrucosa
(G.B. Sowerby I, 1825)

Found at Rarawa Beach in September 2017; measures 35.7 mm.

ANDREW SPURGEON

Tonna perdix (Linnaeus, 1758)

Found on the tide line, washed up among seaweed and broken shells, in June 2017 at a beach near Whangaroa. I only had about 10 minutes to do a quick sweep of the tide-line, as I was with other people. I managed to find this shell along with a decent sized but slightly battered *Tonna tankervillii* (Hanley, 1860) with animal. The *T. perdix* is quite small, 37 mm in height. It has lost part of the body whorl, but nevertheless would only have been about 45-50 mm if it was complete. There have been reports of specimens being dumped overboard from foreign fishing vessels, but these are usually quite large. I think the crew actually eat the animals, so I doubt if this small specimen could have turned up this way. I went back a week later, but there was nothing decent on the beach at all.

ANDREW SPURGEON

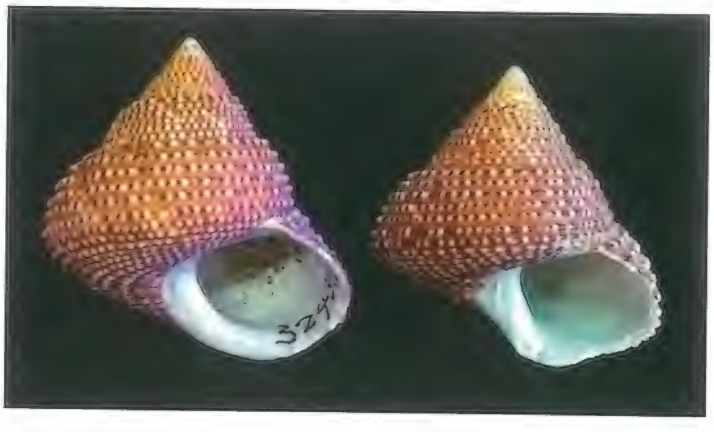
Chama sp.

This *Chama* sp. was found attached to a piece of pumice at Te Araroa, near East Cape in October 2017. This is a tropical group, not known to live on the New Zealand mainland. Pumice rafts have been known to transport bivalves and other marine invertebrates thousands of kilometres. This pumice raft would have originated in the tropical SW Pacific, possibly at the Kermadec Islands. The shell measures about 15 mm.

KATHY CARSON / KERRY WALTON

Reference: BRYAN, S.E., COOK, A.G., EVANS, J.P., HEBDEN, K., HURREY, L., COLLS, P., JELL, J.S., WEATHERLEY, D. & FIRN, J. 2012. Rapid, long-distance dispersal by pumice rafting. PLoS ONE 7(7): e40583. doi:10.1371/journal.pone.0040583

Maurea osbornei *(Powell, 1926)*



These two specimens were found on the beach at Auroa Point on the northern side of Mahia Peninsula in October 2017. The species is quite common there although beach-cast specimens are seldom in good condition. *M. osbornei* is quite squat at the southern limits of its range on both sides of the North Island (Kapiti Island and Hawkes Bay). Many collectors probably mistake them for the more common species *M. granti* Powell, 1931 (which they closely resemble) or *M. punctulata* (Martyn, 1784) and accordingly don't bother to pick them up. A quick determination guide is to look at the early teleoconch whorls - in both *M. granti* and *M. osbornei* they are very straight-sided whereas *M. punctulata* has rounded early teleoconch whorls. *M. osbornei* always has a light orange colour in the interspaces between the beaded spiral threads, especially on the underside, and the interspaces are usually as wide as the threads themselves. With a worn protoconch and early teleoconch whorls, distinguishing these species can be very difficult.

KERRY WALTON

Hygromia cinctella

(Draparnaud, 1801)

WANTED!

Wanted: sighting reports of this exotic land snail, first discovered in New Zealand in 2015 in Brooklyn and subsequently found in Tawa also. It lives in mixed exotic vegetation, often within the leaves themselves as well as in the litter.

KERRY WALTON

Reference: WALTON, K. 2017. *Hygromia cinctella* (Draparnaud, 1801) (Mollusca: Gastropoda: Hygromiidae): a new adventive land snail for New Zealand. New Zealand Journal of Zoology, 44(1), 9-13.

Corbicula fluminea (Müller, 1774) from Lisbon, Portugal

by Bert van Tiggele

During my holiday trip to Europe this year, I visited Lisbon for a few days as a tourist. During this visit I was in a well-designed park, called Calouste Gulbenkian Park, to visit the Museum of Modern Arts. Looking into the water of a small stream, I saw some empty shells which seemed to be the Asian clam - *Corbicula fluminea* (Müller, 1774), in the family Cyrenidae. They measured 31 mm in height and 30 mm long.

The Asian clam is one of the most invasive bivalves in freshwater ecosystems. The natural distribution is from Russia and Japan in the north, to Indonesia in the south and from Africa in the west to the Philippines in the east. It has been introduced into the Americas and Europe, where it is a pest, and has been dispersing worldwide over the last 80 years.

In the 1980s its presence was reported in Europe and also in Portuguese rivers such as the Tagus, on the northern banks of which sits Lisbon near where the Tagus empties into the Atlantic Ocean. This bivalve has now also appeared in a small stream through the Calouste Gulbenkian Park, in the middle of the city. However I did not detect any living specimens: maybe the dead shells arrived via ducks, or with loads of sand from the nearby Tagus River, used for preparing the bed of this small stream in the park.

C. fluminea is a freshwater filter-feeding bivalve, with a globular shell. It can find food in sediments with its extendable foot. It has a yellow/green to brown color and ridged, solid shells. They can occur in large numbers in sediments and are usually less than 30 mm in size. In Europe there is also a very similar species, considered a form by some - *C. fluminalis* (Müller, 1774). The taxonomy of these two species/forms is complex, and not completely resolved, despite recent genetic studies (Pigneur et al. 2011). [Ed. note: About 12 species are currently recognized: there is debate regarding which names and species are valid but there are likely to be several species.]

The rapid growth, early sexual maturity, short life span and high fecundity of *C. fluminea,* along with its association with human activities, makes it an invasive species with potential for spreading into New Zealand waters. As far as I can find in literature at time of writing, this species has not yet arrived here. But it has already spread into many countries and has reportedly reached Australia. Shellers should watch the fresh water streams in New Zealand for this bivalve and if found, report it to the Ministry for Primary Industries [Ed. note: MPI Biosecurity Hotline ph: 0800 80 99 60 at time of writing].

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Australian Shell Show 2017

by Pat Lakeman

11-12 February 2017 was the occasion of 12th Australian National Shell Show and the fourth run by the Sydney Shell Club.

Graham Aamodt, Jenny Raven, Kris Woods and I stayed at the same lovely two bedroom, two bathroom, just-across-the-road-from-Manly-Beach, and just-around-the-corner-from-the-Corso, apartment with a swimming pool on the roof that Graham, Jenny and Pat (with Ena Coucum) had stayed at for the 2014 Show. It was a short drive to the show venue at the Balgowlah RSL Memorial Club at Seaforth, where the astonishingly nice bunch of people that typically attend these events were gathering. Heather Smith was staying with family not far away, and the friendly and well-run event was most enjoyable, with entries in 22 classes and lots of dealers' tables with masses of shells for sale. Kris, Jenny and Pat won a first prize each in the classes Shell with WOW Factor, Favourite Shells and Haliotidae respectively; Heather won 6 firsts including the award for most exhibits in show.

Clockwise from top left: Kris and Heather in relaxed mode; Jenny's winning entry in class "Favourite Family"; a display of sponges; Graham, Pat and Robert Ellis at the show dinner; youngsters fascinated by the choices; Jack Hannan's winning photographs of "Shells with animal"; Adrian Bishop's winning display of *Umbilia*; Kris 's winning "Shell with WOW Factor" (at left). Photos: Robert Ellis and Pat Lakeman

Dredging Pelorus Sound

by Kerry Walton

Twice now I have had the pleasure of dredging with Kevin Mead near their home in Pelorus Sound. He has designed a fantastic dredging system that minimizes damage to the seafloor whilst covering ground more easily and quickly than any comparably sized box-dredge I have ever used - all without so often damaging specimens. It features laser-cut sinusoidal tines, in place of spikes, that dig into the sediment without impaling everything with which they come into contact. It also has an angled dorsal plate that keeps the dredge digging in when towing at 4-6 knots. When speed is increased however, this same plate flips the dredge over and brings it up to the surface simply by water-friction. One can then 'shoot' a float down the dredge rope that hooks onto the dredge and holds it at the surface with no manual work or winch required!

Of course, with a finer mesh insert in the net to capture small shells (since the dredge was designed primarily for scalloping), one can encounter a heavier net haul and may have to try a couple of times before successfully shooting a float. Dredging really is best with two or more able-bodied people.

When presented with a good dredging platform and an area I know little about, I like to have a few pre-selected sites in mind before I begin exploring. Bathymetric charts of New Zealand are available free from the LINZ website or can be arranged through the Wellington Shell Club. I would be looking for areas at the base of a drop-off or where bryozoans are known or likely to occur - somewhere likely to have a little structure, which in turn, makes the communities present more rich. Although areas with strong current such as in narrow channels are potentially very interesting, the current may remove sediment leaving a rocky bottom that could snag the dredge or make it very difficult to bring to the surface if the bottom is loose cobble. Experience or cautious short runs help to mitigate this possibility.

On my first trip with Kevin, we made a few exploratory tows beginning near the entrance to Pelorus Sound and cruising back inland until we hit promising territory. The sea was simply too rough to head out into Cook Strait into the bryozoan beds and deeper water where we had intended on going. Each tow would take us a little over 20 minutes from dropping the dredge over the side to sorting the material. With a maw a little under a metre wide, a 200 m tow would cover quite a lot of seabed – something easily calculable to give you an approximate density estimate. Our early tows in 40-55 m of water retrieved surprisingly little of any interest and were pulling through the thick muddy ooze that makes up the majority of the seabed in the Marlborough Sounds. Each tow would have three or four live *Alcithoe fusus* (Quoy & Gaimard, 1833), a couple of *Antalis* species, *Fissidentalium zelandicum* (Sowerby II, 1860) and a couple of other bits and pieces but little of any serious interest. The *A. fusus* did not have striking patterns and everything was put back. Echinoderms formed the majority of the catch.

At last, nearer Maud Island (but outside of the marine reserve there!), we began to have some better luck. Here each tow would yield half a dozen specimens each of beautiful golden coloured *Poirieria zelandica*

From top: *Poirieria zelandica* (Quoy & Gaimard, 1833); *Alcithoe fusus* (Quoy & Gaimard, 1833); *Aeneator otagoensis* Finlay, 1930

(Quoy & Gaimard, 1833) with striking purple spines and wonderfully lined examples of *A. fusus*. I like multi-specimen lots so as to better appreciate the degree of variation within a species in a particular area. Accordingly, once I find promising ground, I like to repeatedly hit it. We drew two 'tracks' on Kevin's wayfinder and dredged up and down each about half a dozen times. This resulted in only two stations ("localities") collected in the day but from each station we had a veritable bucketful of nice material. Repeatedly hitting good ground also maximizes the volume and quality of material retrieved.

Of most interest to me were the two live *Mysticoncha harrisonae* Powell, 1946 that came up together in one of the dozens of tows we did at our preferred site. The delicate white shell is fully enclosed in a translucent whitish gelatinous blob that has a yellowish tinge near its centre. They look quite unremarkable when they are alive, but it was easy enough to see that they contained a shell inside.

The *Glaphyrina caudata* (Quoy & Gaimard, 1833) we dredged were beautiful although they were few and far between. We only got two in the end, both alive with a spectacular bright red animal. The shell is of a dark reddish brown colour in the Marlborough Sounds - far darker than those from further north.

We also dredged a few *Aeneator otagoensis* Finlay, 1930, *Zeacolpus vittatus* (Hutton, 1873), *Maurea selecta* (Dillwyn, 1817) and *M. waikanae* (Oliver, 1926), large *Alcithoe arabica* (Gmelin, 1791), *Pratulum pulchellum* (Gray, 1843), *Notocallista multistriata* (G. B. Sowerby II, 1851), small *Neilo australis* (Quoy & Gaimard, 1835), *Saccella maxwelli* Beu, 2006, *Bartschicoma edgari* (Iredale, 1915), *Dosinia greyi* Zittel, 1865, *Serratina charlottae* (E. A. Smith, 1885), beautiful *Penion* sp. and *Antalis suteri* (Emerson, 1954) each day, but these species were harder to come by and most were collected as empty shells. The only way to get multiple specimen lots of these without reducing the data quality and amalgamating lots was to repeatedly dredge in the same area. Large and beautiful *Terebratella* sp. brachiopods were abundant as were *Pelicaria vermis* (Martyn, 1784), *Talochlamys gemmulata* (Reeve, 1853) and *Limaria orientalis* (Adams & Reeve, 1850).

Scallops were few and far between and even then we would have only brought up one or two that would have been of legal size. The best scallop beds are in shallower water than we were dredging and in the bays rather than within the channels where we focused our efforts. Even so, there should have been a lot more. Regrettably, commercial overfishing has decimated much of the scallop fishery throughout the Tasman/ Marlborough region and the entire Marlborough Sounds is temporarily closed to both commercial and recreational scallop fishing. Blue cod however were not hard to come by. The Marlborough Sounds is a true playground although it is subject to ever increasing pressure. We are so lucky to have such a beautiful and bountiful area right in our backyard.

A chuckle ...

.. from an article by Barb Collins in *Cairns Shell News* June 2017

From a letter to a shell dealer:

> "Dear Madam,
>
> I am in need of a seashell to serve as a washbasin in the bathroom of my new house. I don't want one of those heavy white ones with the big wavy ridges on the edge. Instead I want a round one with a smooth, beautiful greenish iridescent inside. I saw one like it some time ago but it was too small and it had holes along the top. The one I need must be at least 3 feet in diameter and without holes."

In response Veronica Parker Johns of Seashells Unlimited, New York, wrote.

> "Dear madam,
>
> I am afraid that the Lord, when he created the world did not foresee your needs. Sorry!"

[Ed. note: He wasn't so far away though – *Haliotis rufescens* Swainson, 1822 can grow to well over a foot across but alas, it has holes.]

Is it a bird, is it a beer – or is it a boat?

by Jill Burnett

After I had written down this title, I thought what a good riddle it makes. So the next question is: What is the shell? And which of the three four-letter words in the title is it named for?

Knowing our shell club members, I am quite, quite sure that a lot of you convivial types have immediately, without hesitation chosen the second option, and are even now scanning the shelves of your beer fridges, to decide which of your favourite brands had been honoured with a shell name. Yeah right. However, there are some keen bird watchers among us who will be thumbing through their ornithological guides. Which bird is lucky enough to have the same name as a beer, not to mention a shell? And

what about the boat?

The best place to find out the reason for a shell name is in the paper originally describing the shell. By now, after carefully comparing the names of birds and beers, you will no doubt have come up with "tui" and concluded from this that the shell is *Thalassocyon tui* Dell, 1967. If you look this up in our trusty checklist you will find it was described by Dick Dell, and the bibliography reference will take you to a paper published in the Records of the Dominion Museum in 1967, "Some Mollusca from deep water to the north of New Zealand, collected by the Tui, 1962." And in the abstract, Dell says: "Three new species of benthic mollusca … obtained on the Tui cruise in 1962, are described."

So the answer is a boat. I'm really sorry for all you beer drinkers. Yeah right.

Picture credits: Marine snail, *Thalassocyon tui* Dell, 1967, collected 26 July 1962, Colville Ridge, W of Raoul Island, New Zealand. CC BY-NC-ND 4.0. Te Papa (M.021299); http://www.nzbirdsonline.org.nz/species/tui; http://www.tui.co.nz; RNZFA *Tui* (RNZN 1959) from "The first forty years".

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Stories of the Solomons

by Ron Moylan, Jim Crossland, Kevin Mead, Mike Young, Derrick Crosby, Mike Hart, Heather Smith, Hedy Stoneham, and Pat Lakeman

Ron Moylan is a member of the Sydney Shell Club and a regular visitor to New Zealand shell shows. He has been a serious shell collector and dealer for a very long time, and has made many and varied sailing and diving trips around the Pacific. Ron cemented his connection to the Solomon Islands through his wife Marina, whose family lived there, which prompted regular visits over many years. While there. Ron collected specimen shells by regular night dives all around Marau Sound and well beyond. Marau Sound is at the eastern tip of Guadalcanal, and is where Marina's father Iain Gower came to work from Australia, eventually buying Paruru Plantation, raising a family, making shell jewellery, running a coastal shipping business and, in the 1990s, starting an aquaculture business farming "giant clams" - species of the Cardiidae family.

On one particular occasion in 1985, Ron and Marina were among a group aboard Brian Bailey's yacht "Wyuna", and returning from an exciting shell diving charter they had commenced in Vanuatu. Ron recalls how, on the last night of the trip, he and Brian dived from the Wyuna's anchorage at a small inlet on the northwestern tip of Makira Island:

"We descended down the anchor chain into the inky depths and found the bottom at 20 metres. It was 9.30 pm, a dark overcast night, although the moon was still at three-quarter phase and not generally considered a 'good shelling' time. Approximately 15 minutes into the dive I noticed a rather small bulbous cone shell with an exceptionally long proboscis, crawling along the crest of a 'black sand mountain'. The animal was a uniform dark brown in colour and was obviously anxious to find a meal as it was not at all concerned about my presence or my initial handling, as when replaced onto the sand, it continued its search. After careful observation I collected the specimen, as I could not identify it, even though the rather transparent periostracum revealed the dark mottled pattern and radial lines beneath."

Ron collected several specimens and, after the dive, found that Brian had collected some also. And, despite Brian being quite an authority on shells from the Solomon Islands, neither of them could identify it. "The shells were most variable in colour, from cream to light fawn then to mottled dark brown, each noticeably marked with radial lines at regular intervals, moderately light in weight, with a reasonable gloss. The sides are slightly convex, shoulder roundly angled and not very distinct from the spire, with a moderate sharply pointed spire. The aperture is moderately narrow posteriorly, much wider anteriorly, outer lip thin, sharp and gently convex. The mouth is dark violet, pale violet or white, often with a darker margin inside the outer lip edge. The operculum is comparatively small, often sickle shaped and 2-3 mm long. The length of the shells ranged from 20-35 mm.

Some of the shells were photographed alive, then preserved in formalin and, eventually, sent by Brian to his friend Dieter Röckel in Europe for positive identification. Dieter wrote to Brian six months later confirming his acknowledgement of the shells as a new conus species.

It was not until the June 1987 issue of *Hawaiian Shell News* that I noticed the article naming the shell as *Conus sertacinctus* Röckel, 1986. Brian, who already had a number of shells named and accredited, including *Conasprella baileyi* (Röckel & da Motta, 1979), unfortunately did not mention in his correspondence to Dieter Röckel that I too collected these original specimens, as had this been the case perhaps we would have had '*Conus moylani*'! The mind boggles."

Ron pondered long and hard how to get back to Makira Island to look for *C. sertacinctus* again. It didn't happen until just after Christmas in 1989 where, after much delay due to rough weather, "at 10.30 pm, with a short rest after the evening meal, we commenced our dive: 20 metres to the black sand with the same 'hill like' wave patterns as I had previously encountered. I found my first *C. sertacinctus* only 10 minutes into the dive." Not many were spotted on that occasion but more were evident the following night, when Ron was able to dive again. "It was my best Christmas present ever and but for that late calm in the weather, it may

not have been."

And Ron did achieve having *Conus moylani* named after him! In 2000, Delsaerdt named "an uncommon *Conus* species from the Solomon Islands" "in honour of Mr Ron Moylan, (Seaforth, NSW, Australia) who kindly donated the holotype and paratype 2".

Club member Jim Crossland, and his wife Leigh, have also had a very long association with the Solomons. Jim writes:

"I have been travelling to the Solomons since 1981. Most of my early visits involved fisheries development work and took me to many different islands. On one visit in 1985 I met Ann Kengalu. She and her husband Johnson ran a business trading trochus shells, pearl shell and beche-de-mer from their home and office in Honiara's China Town beside the Sarakata River. Ann (nee Anderson) was originally from Christchurch and had gone to the Solomons Islands many years before as a teacher in a mission school. Ann also started another business - Western Pacific Shells - which supplied collectors around the world with specimen shells, long before the internet or PayPal were on the scene.

Often the local fishermen would bring in large shells like *Cassis cornuta* (Linnaeus, 1758), *Lambis truncata* (Lightfoot, 1786) and *Charonia tritonis* (Linnaeus, 1758), which were far too big to post overseas. On one visit she asked me if it would be possible to sell them in New Zealand if she sent a consignment by sea freight. I agreed, and in due course a large wooden crate was unloaded in Auckland full of exciting, beautifully cleaned shells. That was how I got started in the shell business. As well as the common decorative shells Ann could supply the golden cowrie, *Lyncina aurantium* (Gmelin, 1791) and rare cones such as *Conus gloriamaris* Chemnitz, 1777. Johnson knew the right spots and dived for them using scuba.

Sadly, first Johnson and then Ann passed away during the 1990s and were unable to realise their dream of opening a lodge on Ontong Java, Johnson's home island. I thought that would be the end of the shell business, but one day in 1999 I received a collect call from the Solomons from a man from Marau Sound (on Guadalcanal) who had known Ann and to whom she had given my contact details. He had shells and would I buy them? So I sent over some funds but never received the shells. At that time the local insurgency disrupted daily life on Guadalcanal until the intervention of Australian, New Zealand and Fiji soldiers and policemen restored order.

A few years later I received another call from my shell man. Was I still interested in buying his shells? I sent him some more money but told him that would be the end of it unless I received the shells. It turned out that he and his family had been hiding in the bush for a couple of years to avoid the insurgents, and had survived mainly on air drops of rice by the Australian Airforce. This time a parcel of shells arrived.

Since 2000 Leigh and I have made several trips to Marau where we stayed in the village of our shell man. Over several days local people would bring in their shells for us to buy. There is a great diversity of habitat around Marau: sand flats, turtle grass beds, inner reefs, outer reefs, rocky outcrops and mangrove areas. As a result there are many hundreds of mollusc species. The main families and species numbers I have recorded are: Conidae 82; Cypraeidae 67; Terebridae 36; Mitridae 50; Strombidae 17. For a full list of these species and for other families, please contact me.

Reefs come under local control in the Solomons. I have never tried to collect myself, but am sure it would have been possible if I had asked. Areas have been set aside as reserves in Marau. One is behind the island we stayed at. These are informal arrangements of no take and seem to be respected. Many of the shells we buy are collected by women, who do a lot of gleaning on the reef for their daily food. Children with their sharp eyes are good at finding small cowries and other interesting shells. The men in certain villages are expert divers and dive for cones outside the reef. No-one had scuba, except when visiting yachts called in.

To export marine products from the Solomons requires a permit issued by the Fisheries Department which has set it at SBD6,000 (about NZD1,200). This is for one year only and is issued at the discretion of the Fisheries Department. There are also other requirements for a business licence and pack house licence. As a result it has brought our travels to Marau to a close and a loss of income to the enterprising people of Marau Sound."

Just one visit to the Solomons, in 1986, set club member Kevin Mead on a shell collecting journey that continues to this day. Why did he go? His best mate Millsy, a marine engineer, had gone to help build tuna boats for the Solomon Islanders to use for fishing. He wrote telling Kevin the place had the best diving in the world and Kevin had to visit. In fact, while Millsy was evacuated back due to a huge cyclone, he gave a talk to a Nelson dive club and a whole team – including Kevin - made the trip, chartering Brian Bailey's yacht and going to Russell and Florida Islands as well as Guadalcanal.

Brian Bailey gets several mentions in these stories and is clearly a special person – Australian Open Spearfishing Champion back in 1968, a legend of South Pacific salvage with more than 50 years wreck diving experience, and one of the original wreck divers of the Solomon Islands in the late 1960s and 1970s, when he and others were licensed to remove non-ferrous metals from numerous World War II wrecks. Reputed to

Above, clockwise from top left: Shell sellers, Marau Sound (JimCrossland); Mike Young's *Leporicypraea mappa*, *Lyncina aurantium* and *Leporicypraea valentia* (Mike Young); Mike & Val Hart's carving from Telina Island (Pat Lakeman); Mike Hart in Ann Kengalu's shell shop (Val Hart); *Conus moylani* (http://www.gastropods.com/4/Shell_15334.shtml © Alan J. Kohn); *Dolabella auricularia* (Heather Smith); *Conus sertacinctus* (https://en.wikipedia.org/wiki/Conus_sertacinctus)

have made many thousands of dives and to know every reef and every wreck in the Solomons, he has a rich history of molluscan connections too, having a number of species named after him and, in 1969 with the late Wally Gibbins, discovering where the once very rare Glory of the Seas, *Conus gloriamaris* Chemnitz, 1777, were most likely to be found. He is now back in Australia after some ill health last year, but he is a common thread of friendship and shared adventure for many divers and shellers.

When most of the team went back after a fortnight, Kevin stayed on for another two weeks. Diving on wrecks and ammunition dumps, and in isolated places, the beautiful shells there just captured his imagination. He returned to New Zealand laden with beautiful cones and cowries – wrapped and stored inside anti-aircraft shell casings! His luggage was way over weight, but he got home with it, and remembers his time on the Solomons as "an awesome adventure".

Kevin later worked on a salvage job in New Zealand where he met club member Mike Young doing the same thing. He told Mike of his trip, and found Mike had met Brian and also knew Millsy, who had brought back some land snails from the Solomons for Mike as a result of a letter Mike had written to "Alan Mills, Florida Island" - which clearly got delivered! Mike's first trip was in 1988, when he was scheduled to be part of a group of ten – only it turned into a group of four at the last minute – Mike, his brother and two friends. Their natural fear - that the cost of this three week trip spread across the four of them would be a small fortune - was unfounded: Brian charged them very fairly. And, when the boat broke down far from anywhere and they had to wait a week for parts to arrive, it could have been worse: they still had a compressor and small boat so they had a brilliant time diving three times a day, albeit in a limited area.

Mike returned to the Solomons again in 1992 and 1994. Each of these trips was two weeks, and each time on Brian's boat. His shell collecting highlight would have to be on the second visit, when Brian said he had found *Leporicypraea valentia* (Perry, 1811). They dived on the wreck of a Japanese transport ship, the "Azumasan Maru", near Honiara. This was a deep dive, and air and time restrictions meant there was only about 7 minutes to look for shells. But it was time enough for Mike to spot the rare cowry, tucked hard into a corner of deck. "Very exciting" Mike recalls, "like winning lotto!". And then it took him half an hour to get back up, where Brian said "You bloody tin arse!". Can't you imagine Mike's grin? To top it off, a couple of days later Mike and Brian both dived the same wreck again, and Mike found another specimen in the hold, further down the ship. Brian couldn't believe it. A beautifully pink *Leporicypraea mappa* (Linnaeus, 1758) was another great find for Mike on that same dive and, just a few days later, he sweet-talked a

The Solomon Islands ...

.. comprise six major islands and over 900 smaller islands in Oceania, to the east of Papua New Guinea and northwest of Vanuatu. They have a land area of about 28,400 square km; the population was estimated to be 642,000 in 2015. Honiara the capital is located on the island of Guadalcanal.

.. have been inhabited for thousands of years: Europeans (the Spanish) first visited in 1568, and Britain declared the southern Solomon Islands a British protectorate in 1893. During World War II, the Solomon Islands campaign (1942–1945) saw fierce fighting between the United States and Japan, such as in the Battle of Guadalcanal. Self-government was achieved in 1976; independence was obtained two years later.

.. include the East Rennell World Heritage site, which was declared in 1998 by UNESCO. It comprises the southern third of Rennell Island - the largest raised coral atoll in the world and the southernmost island in the Solomon Island group. The site includes about 37,000 ha and a marine area extending 3 nautical miles to sea.

.. were dominated by civil unrest between 1998 and 2003. With the country bankrupt and the capital in chaos, the Government sought outside help and in July 2003, over 2000 security police and troops were provided by over 20 Pacific nations led by Australia and New Zealand.

fellow diver to part with a very handsome golden cowry, *Lyncina aurantium* (Gmelin, 1791). Great shells and terrific memories.

However – and somewhat to his regret - Mike did very little searching for land snails during his visits: when he did try it he reckons the heat and humidity were such that he nearly passed out!

Superb diving is an abiding memory for club member Derrick Crosby, who visited the Solomon Islands in 1989 with Ann and two other members of Auckland Shell Club, Nancy Smith and the late Rae Sneddon. They were four Kiwis joining a group tour organised by the author of several shell books, Alan Hinton. They spent four days based in Honiara, exploring and shelling on Guadalcanal, then assembled for a flight to the island of Gizo to the northwest, where they were to spend the next nine days. Derrick takes up the story:

"As shell collecting was the primary objective, most dives were to 15-18 metres, so that we could concentrate on studying coral growths and sandy areas for the many species of shells that live in the tropics. Molluscs are not entirely silly – they mostly hide during the day when snorkelers and divers are about, so one has to have a knowledge of habitat to know where to look for them – under boulders or coral growths or ledges, deep in the weed fronds, inside larger dead shells, or beneath the surface of the sand. Also their shells are usually well camouflaged with weed and coralline growths, so they blend with the background and are hard to see, even when one is looking at them. Before long, we had begun to collect various species – some nice *Coralliophila* specimens, and in the sand slides, nice terebras, olives, strombs and such.

The reefs were tremendous – miles and miles of active living reef with every size, shape and colour of coral one can imagine, and generally no sign of pollution of any kind. Fish, large and small, of many species, and starfish abound, as do a wide variety of sea urchins, in a range of sizes, colours, shapes and spine types. Visibility of 30 metres in the delightful warm water was quite common.

The group undertook three deep dives, the last of which was to the wreck of the Japanese freighter/troop ship "Toa Maru". But it was the first of these that yielded Derrick's find of the trip: "a freshly-dislodged-from-the-reef, live 33 mm *Conus bullatus* Linnaeus, 1758". Even so, he declares "The night dive was by far the best part of the trip. We were away by boat at dusk, on site and set up ready to go by nightfall. A nice shallowish reef, maximum depth about 21 metres, with large sandy pockets amongst gaps in the reef, large plate corals, staghorn corals, brain corals and more – a perfect site. Many of the corals can be seen

Map (left) credit: www.lib.utexas.edu/maps/solomon_islands.html (University of Texas)

fluorescing at night, exhibiting even more vivid colours than by daylight. Myriads of small fish darted in and out of the corals, their eyes and bodies glinting in the torchlight. Even more spectacular were the array of shrimps, mostly transparent, and glowing with some of the most elegant shades of pink and red I have ever seen. Best of all the shells – all sorts of shells – were out and about. The sand dwellers were out in particular force, so this was the most fruitful of all our dives. Like the corals and shrimps, many molluscs have parts of their mantles and tentacles that fluoresce in the dark. It is also an opportunity to see the animals extended and walking, on top of the sand or coral or weed, depending on what they feed on. Also, night is the only time to collect several species which remain deeply hidden during the day."

Derrick and Ann brought home a 20 litre bucket packed with over 350 species for their collection, which took many months to clean and preserve and catalogue. And Derrick's verdict on the diving: "At $20 each, including tanks, air, weights, boats, boatmen and expert divemaster, the diving was the best value for money I have ever had."

Club members Mike and Val Hart made a three-week trip to the Solomons, with their two children Kelli and Rob, in May 1993. There was no special reason for their visit, they simply love the islands of the Pacific and it was somewhere they had not been to. They stayed at the Mendana Hotel in Honiara, near the Point Cruz Yacht Club, a gathering place for ex-pats. They knew Brian Bailey and Iain Gower, but this was a family holiday, full of beaches and buying shells and war souvenirs at the markets as well as snorkelling and diving.

They visited Ann Kengalu's famous shell shop, and then it took two attempts to fly them to Sege, on their way to Uepi Island Resort, off the western coast of New Georgia on the edge of Marovo Lagoon. The first attempt was made in a cyclone and Mike recalls waves breaking over the wheels of the airplane before they eventually turned back; the second attempt was still bad, but they got there. From Sege they went by canoe across the lagoon to Uepi. The resort had dive gear so they did a lot of diving there; Mike says he saw "tons and tons of mitre shells" as well as "Lots of sharks! The kids were nervous of them at first – they had seen sharks before but not big fellas that could easily eat you! But by the end they were swimming with them."

Delicious fresh seafood from the lagoon was the staple menu for the handful of people at the resort. Another highlight was a visit to a village of carvers, on nearby Telina Island, where Mike and Val purchased an exquisite carving and a beautifully decorated carved turtle, both of which are still cherished possessions.

Heather Smith didn't really mean to go to the Solomon Islands at all! One of our most (if not the most) travelled club members, Heather and her sister Alison were en route from Tauranga to Tokyo, aboard "The Spirit of Enderby" in April 2010. This was a bird-watching trip, with no shelling intended, and the Solomon Islands was a scheduled stop on the way. With the ship as their accommodation, they visited Rennell Island, Makira Island, Kolombangara Island and Guadalcanal. Heather remembers "Honiara was a pigsty – rubbish everywhere in the streets, muddy and awful in wet weather." But of course during her time on the Solomons Heather found a shell – just one: the internal shell of a Shoulderblade Sea Cat, a member of the family Aplysiidae. When this mollusc is alive, the shell, up to about 40 mm in size, lies buried up to 120 mm deep within the animal, *Dolabella auricularia* (Lightfoot, 1786). And naturally Heather still has her shell.

Our last contribution to this medley of memories comes from Hedy Stoneham. Hedy came to the New Zealand Shell Show in Wellington in 2015 after seeing it advertised – and as a result I went to see her remaining shell collection, and she came to see mine. She has since sold the last of her shells to Mike Hart but in the process I was present for a delightful and animated discussion about the Pacific and the Solomons, which was the genesis of collecting up these stories. Hedy had spent 13 years in the Pacific Islands, first Samoa then 7 years in the Solomons and finally 3 years in Fiji. She accompanied her husband Denis, who had been seconded by the New Zealand Government as Government Printer. They spent three tours of duty in the Solomon Islands in the 1970s, each of two years with four months leave at the end of each tour. They lived in Honiara, leaving as the Solomons achieved independence in 1978.

Hedy had first become interested in shells in Samoa. She lived right on

the beach there, where the tides left lots of shells behind and collecting was easy. She also met a Dutch collector there, who had a shell museum back in the Netherlands and was travelling on a grant to collect shells. Hedy recalls: "She gave me good advice and a shell book and a booklet listing names of shell collectors world-wide. I used the booklet to write to people and trade shells with them. I did lots of trading from the Solomons, because postage was cheap! I remember trading with Thora Whitehead in Australia and a collector in Japan. But there was not good beach collecting on Guadalcanal – the roads stopped before some good places, or areas were not tidal and there was nothing to turn. You needed to snorkel. Lots of my shells came from islanders who came from all the different islands with shells and other goods for sale when a cruise ship visited Honiara. I always asked for details about where the shells had come from."

Hedy and Denis made many friends and not long after they arrived they began to be invited to dinners with other officials and Ministers. Of course such invitations were willingly returned but the menu would depend on what was available. Hedy recollects that an Australian ship visited every four weeks; the New Zealand ships were less reliable. She served oysters, sent frozen from Sydney but served on local, empty shells. She relates that they could not always afford what Government Ministers could provide, and remembers decanting Australian cask wine into empty German wine bottles: "I never told them!"

Certainly a highlight of Hedy's stay on the Solomons was meeting the Royal Visit in 1974. The Queen, the Duke of Edinburgh, Princess Anne and Captain Mark Philips, and the late Lord Louis Mountbatten comprised the Royal party. Hedy still has her invitation to a reception aboard the royal yacht "Britannia", and some entertaining stories about the occasion.

When Hedy left Samoa she didn't have many shells and she took them, with a cabinet made in Wellington, to the Solomons. By the time she left the Solomon Islands she had two cabinets and many boxes, all full of shells. She took just one of the cabinets to Denis' next posting in Fiji and had many more shell adventures. She joined the Fiji Shell Club, enjoyed numerous group outings (often accompanied by her son Mark, who was about 10 years old at that time), got stung by a *Conus striatus* Linnaeus, 1758 when she was out on a reef (she didn't get sick but a part of her left index finger is numb to this day), and served on the shell club committee. And, with great enthusiasm, she collected many more shells! Thanks Hedy, for being the catalyst to start these stories.

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Going to Melbourne?

Past editor Elliot Dawson drew our attention to an appropriately-named place to visit: The Shell Club at Geelong! I'm a little disappointed that the Victorian Branch of the Malacological Society of Australasia doesn't meet there, but your editor had better not go because she would be sooo tempted to nick one of their cup and saucer sets with their neat little logo – see http://www.shellclubcorio.com/

Shell Club Trip To Great Barrier Island

by Jenny Raven

In May 2017 seven members of the Wellington Shell Club visited Great Barrier Island: Jenny and Linda from Wellington, Margaret and David from Gisborne and Kathy, Jim and Leigh from Christchurch. Margaret and David took their vehicle across on the boat while the others took the 30 minute flight from Auckland. The views of the Hauraki Gulf islands and Coromandel Peninsula from the air were magnificent. For Jenny it was a return after visiting the Island with Pat Lakeman and Graham Aamodt in 1990 (see *Cookia* vol.6, no.3). Jim had worked around Great Barrier with Fisheries Research in the 1970s, but had only been ashore once at Port Fitzroy, so he relished the chance to spend a whole week there.

As Great Barrier Island is 40 km long, the group hired a vehicle to get about. Petrol is expensive but fortunately the main road is now sealed, although the unsealed side roads are steep and winding: a sign on one road advises drivers not to exceed 35 km/h! There is no reticulated power so locals depend on generators, solar power and wind turbines. The settlements are spread out, and in summer, visitors increase the population of 950 to some 3,000 to 5,000.

The group stayed at Tryphena at the southern end of the Island where there is a club, several accommodation lodges, cafés/bars and two stores. Linda noted that, while there was some beef and sheep farming on the Island, the stores only sold frozen meat. For Jenny the biggest change was the settlement of Claris, near the airport, which had grown to become a commercial hub with cafés, galleries, a museum and several car rental businesses. Also notable was work that the Department of Conservation had done in recent years, with several campgrounds, boardwalks and signage about the Island.

During the week the group visited a beach at low tide each day. Tryphena and Blind Bay, Okupu are partly sheltered, open beaches on the Hauraki Gulf side of the Island. Jenny recalled finding a lot of small shells at Puriri Bay, Tryphena 27 years ago but there was not a lot to be seen here, although a whole *Asthenothaerus maxwelli* B. A. Marshall, 2002 found by Jenny was a good find.

The first visit to Medlands did not look promising: the long sandy beach had no shells. However the rock outcrop at the south end with its rock platform, pools and small sandy beach by a creek kept most people happy. Some interesting finds here were *Aplysia parvula* Mörch, 1863, *Epitonium minorum* (Iredale, 1936) and *Monoplex exaratus* (Reeve, 1844). Revisiting the headland at Shakespeare Point, Jenny found the very deep pool she had photographed in 1990 but there were no fish swimming in it this time. There was still shell sand at the south end of Medlands, and Kathy and Jenny scooped some up for sorting later.

At Whangapoua the beach was littered with *Stiracolpus pagoda* (Reeve, 1849). It was a short walk through the sand dunes and then another 20 minutes to Tapuwai Point at the northern end of the beach. At low tide many rock pools were exposed, with lots of hermit crabbed shells in them. Under the seaweed were more shells. *Amalda northlandica* Hart, 1995 and a *Philippia lutea* (Lamarck, 1822) were seen - but not in the numbers found in 1990. The shell sand beside the rocks was fresh and colourful and proved very productive when sorted later. Kathy rated Tapuwai Point as her favourite beach on the trip because of the variety of shells. She said "It was a paradise for a microshell collector like me. Collecting was not difficult and the high tide mark always had washed in shells. Many of the shells collected were uncommon or rare."

Port Fitzroy was a pleasant surprise. This and Whangaparapara are sheltered harbours which are very muddy round the edges and generally involve crossing a stream mouth. We arrived for a -1.32 m low tide and a search of two muddy sites showed members of the Ranellidae firmly in residence: live *Cabestana spengleri* (Perry, 1811) and the hairy triton *Monoplex parthenopeus* (Salis Marschlins, 1793) were not uncommon, nestled in rock crevices. Although not large, most were in pristine condition. *Tritia burchardi* (Dunker, 1849) was noted here.

Whangaparapara harbour at low tide was particularly muddy with nothing of note, but Jenny found live golden oysters, *Anomia trigonopsis* Hutton,

Clockwise from top left: Jenny's map of Gt Barrier, showing locations visited; club members (L to R) Margaret & David Fraser, Leigh Crossland, Linda Daniel, Jim Crossland, Kathy Carson & Jenny Raven; Okupu Bay; Medlands; minute shells from Tapuwai Point; Kathy's *Umbraculum umbraculum* (Lightfoot, 1786); Kaitoke southern end; trees above Whangapoua; Shakespeare Point; rock formations at Medlands. Photos: Jenny Raven & Kathy Carson

1877, for the first time. Only their little frills were sticking out of the mud. They easily slid off the rocks they were sitting on and it wasn't until she got home and thoroughly washed them that their lovely yellow colours were revealed.

Jim was interested to compare the differing habitats provided by the sandy beaches and rocky headlands on the ocean side, with the sheltered muddy harbours on the gulf side. He felt the ocean side had the greatest diversity of shells. Surprisingly some beaches had good wash ups near high water mark, while others adjacent had almost none (the south end of Kaitoke, Harataonga and Awana beaches were in this category). Also of note was the small size of many species of common shells, and the number of juveniles - but no adults - of some species: *Struthiolaria papulosa* (Martyn, 1784) and *Cookia sulcata* (Lightfoot, 1786) in particular.

Whilst the rocky shores had a few *Haliotis iris* Gmelin, 1791 and *H. australis* Gmelin, 1791, as with most northern New Zealand beaches, there were none of legal size. Mussels were more common on the gulf side, mostly *Mytilus galloprovincialis* Lamarck, 1819, but never abundant. Rock oysters - *Saccostrea glomerata* (Gould, 1850) - were abundant in all areas of hard substrate and a constant hazard while negotiating the rocks; the Pacific oyster *Magallana gigas* (Thunberg, 1793) seemed to be restricted to the gulf side and its larger size made it worthwhile to prise a few open. Jenny found a 115 mm tasty beauty at Port Fitzroy.

The shell sand collected by Kathy and Jenny, whilst not initially looking promising, did turn up some good results. *Cylichna thetidis* Hedley, 1903, *Neolepton antipodum* (Filhol, 1880), *Merelina taupoensis* Powell, 1939, *Fossarina rimata* (Hutton, 1884), *Zemitrella fallax* Powell, 1940, *Bouchetriphora pallida* (Pease, 1871) and *Divarilima sydneyensis* (Hedley, 1904) were not uncommon. At Tryphena *Eatoniella puniceomacer* Ponder, 1965, *Fusceulima goodingi* Warén, 1981, *Divariscintilla maoria* Powell, 1932 and *Pleuromeris paucicostata* Laws, 1940 were good finds. Okupu had *Turbonilla bucknilli* (Laws, 1937) and *Suterilla neozelanica* (Murdoch, 1899). Medlands turned up a *Lepetella clypidellaeformis* (Suter, 1908) for Jenny plus *Philine powelli* Rudman, 1970 and *Elachisina iredalei* (Brookes, 1926). At Tapuwai Point *Lasaea parengaensis* Powell, 1935, *Cerithiopsis powelli* Marshall, 1978, *Kidderia aupouria* Powell, 1933 and *Myadora boltoni* E. A. Smith, 1881 were found. Also here Kathy was particularly pleased to find an *Epitonium bucknilli* Powell, 1924, Triphoridae sp., a brachiopod – *Novocrania huttoni* (Thomson, 1916) – and *Powellisetia unicarinata* (Powell, 1930), while Jenny found *Williamia radiata nutata* (Hedley, 1908).

As usual on such club trips, the group did not go without a local fish to taste; however this time they witnessed a novel fishing method. The last day was spent at Medlands where a good sized leather jacket fish was seen swimming around in a rock pool. Whilst the others looked on, Kathy, normally a fresh water expert, demonstrated amazing foot work by flicking the fish out with her foot onto the rocks. The tasty fish was later

A & B: *Neolepton antipodum* ; C: *Kidderia aupouria*; D: *Odostomia takapunaensis*; E: *Cerithiopsis powelli*; F: *Turbonilla bucknilli*; G: *Williamia radiata nutata*; H: *Anabathron ovatus*. Photos: Jenny Raven

References:

Cookia Volume 6, no. 3. May, 1991. Publication of the Wellington Shell Club.

Poirieria Volume 17, no. 3. 1995. Publication of the Auckland Institute and Museum, Conchology Section. Obtainable from www.biodiversitylibrary.org.

cooked up for the happy hour.

Before leaving Medlands Jim was pleased to find his first *Charonia lampas* (Linnaeus, 1758). Kathy's highlight occurred when crossing the creek for the last time: she looked down and there was a lovely big *Umbraculum umbraculum* (Lightfoot, 1786) that had been washed in. For Kathy this was a great ending to a wonderful day and for everyone a chance to reflect on a fantastic trip. Linda said "I could live on the Island … I think."

Shells found on Great Barrier Island by Wellington Shell Club members, May 2017
Compiled by Kathy Carson

This is a list of additional finds that were not on the list of Great Barrier finds by Bev Elliott, published in *Poirieria* 1995, Vol.17, no.3. On this trip, club members found most of the shells on Bev's list; rarer shells on her list that were not seen on this trip were *Agnewia tritoniformis* (Blainville, 1832), *Sassia parkinsonia* (Perry, 1811), *Monodilepas diemenensis* Finlay, 1930, *Murexsul octogonus* (Quoy & Gaimard, 1833) and *M. mariae* Finlay, 1930, *Maurea pellucida* (Valenciennes, 1846), *Clanculus peccatus* (Finlay, 1926), *Daphnella cancellata* Hutton, 1878 and *Penion sulcatus* (Lamarck, 1816).

GASTROPODA
Asteracmea suteri
Tectisumen clypidellaeformis
Sinezona laqueus
Incisura lytteltonensis
Insicura rosea
Coelotrochus tiaratus
Solariella tryphenensis
Lodderia sp.
Zalipais lissa
Argalista nana
Brookula sp.
Liotella polypleura
Liotella sp.
Tenagodus weldii
Austrolittorina cincta
Eatoniella limbata
Eatoniella puniceomacer
Eatoniella varicolor
Rufodardanula sp.
Tubbreva sp.
Fictonoba carnosa carnosa
Fictonoba rufolactea
Haurakia hamiltoni
Haurakia infecta
Haurakia sp.
Powellisetia unicarinata
Subonoba candidissima
Subonoba fumata
Merelina crosseaformis
Simulamerelina gemmata
Merelina lyalliana
Merelina taupoensis
Rissoina achatina
Rissoina fucosa
Fusceulima goodingi
Amphithalamus sp. (2)
Anabathron hedleyi
Anabathron ovatum
Pisinna sp.
Pisinna minor
Pisinna manawatawhai
Pisinna olivacea impressa
Pisinna semiplicata
Pisinna subfusca subfusca
Pisinna zosterophila
Halopyrgus pagodulus
Assiminea vulgaris
Suterilla neozelanica
Nozeba emarginata
Elachisina iredalei
Caecum digitulum
Cochliolepis albiceratus
Novastoa lamellosa
Maoricrypta sodalis
Sigapatella spadicea
Trichosirius inornatus
Lamellaria sp.
Cerithiopsis powelli
Prolixodens infracolor
Zaclys sarissa
Sagenotriphora ampulla
Triphoridae sp.
Epitonium bucknilli
Janthina janthina
Macrozafra subabnormis
Paxula paxillus
Zemitrella choava
Zemitrella fallax
Zemitrella sp.
Tritia burchardi
Xymenella pusilla
Austromitra rubiginosa
Amalda northlandica
Phenatoma rosea
Liracraea odhneri odhneri
Larochella alta
Rissoella micra
Gumina dolichostoma
Linopyrga rugata rugata
Odostomia takapunaensis
Agatha georgiana
Syrnola crawfordi
Terelimella sp.
Turbonilla bucknilli
Philine powelli
Cylichna zealandica
Umbraculum umbraculum
Williamia radiata nutata
Leuconopsis obsoleta

BIVALVIA
Nucula sp.
Philobrya munita
Verticipronus sp.
Divarilima sydneyensis
Limatula sp.
Pleuromeris paucicostata
Benthocardiella obliquata obliquata
Condylocardia crassicosta
Condylocuna sp.
Cuna mayi
Kidderia aupouria
Kidderia costata
Lasaea hinemoa
Lasaea parengaensis
Arthritica crassiformis
Borniola reniformis
Divariscintilla maoria
Leukoma crassicosta
Neolepton antipodum
Asthenothaerus maxwelli

BRACHIOPODA
Novocrania huttoni

LAND SNAILS
Cytora cytora
Cytora torquillum
Tornatellinops novoseelandica
Tornatellides subperforatus
Delos coresia
Laoma leimonias
Laoma marina
Phrixgnathus ariel

Wellington Shell Club 2016-2017

President: Jenny Raven • PO Box 12163, Thorndon, Wellington 6144 • Email: ravenjay@xtra.co.nz
Vice President: Kris Woods • Email: kris.woods@paradise.net.nz
Secretary: Fred Keil • PO Box 12163, Thorndon, Wellington 6144 • Email: freddi@xtra.co.nz
Treasurer: Roger Woods • PO Box 12163, Thorndon, Wellington 6144 • Email: rwoods@paradise.net.nz
Editors: Pat Lakeman and Kerry Walton • Email: pat.lakeman@xtra.co.nz
Newsletter & Librarian: Jill Burnett • 84 Brougham Street, Mt Victoria, Wellington 6011 • Telephone 384 7418
Sales table and raffles: Kris Woods
Website: Roger Woods • http://www.wellingtonshellclub.org.nz

About *Cookia*

Cookia is the journal of the Wellington Shell Club and is published annually. *Cookia* was first published in 1976; prior to that date Wellington Shell Club published a Circular (1956-1965) and then a Bulletin (1967-1975) as well as occasional Study Notes on families of molluscs. For information on earlier publications see the Club's website: www.wellingtonshellclub.org.nz. To request back copies or copies of articles please contact Jill Burnett, 84 Brougham Street, Mt Victoria, Wellington 6011.

Your editor(s) strive to attain a high quality of publication and careful fact-checking. The scope of articles is intended to reflect the differing specialties, levels of interest and experience within the Club: we hope all members will be able to contribute should they wish. We welcome both scientific and non-scientific articles, opinion pieces, photos, drawings and poems, and articles not directly related to shells or shell collecting so long as they have some relevance.

Your contributions are greatly appreciated - the following outlines some editorial policies and formatting suggestions for anyone considering submitting articles for future editions:

- Text should be in plain English: effort should be made to check grammar & punctuation. The font & document formatting don't matter as this will be standardized by the editor(s). Handwritten content is welcome.
- All works submitted should be the author's own & all relevant permissions/acknowledgements should be clearly stated (e.g. image credits).
- We aim to publish mostly original content: please tell us if an article has been published elsewhere. Appropriate acknowledgement, reference or citation should be given for articles or other information from *Cookia* used in the public domain.
- Any photos or drawings provided should be of a high resolution, & supplied as individual files (i.e. not embedded into text). The editor(s) may be able to arrange for imaging of specimens if required. Unless of an in situ individual, an assortment of specimens in one shot or an artful context, it is preferred that specimens are photographed at 90° to the height/length axis of the shell, with apertural views of gastropod species preferred. Multiple views, angles or images of the same specimen are appreciated.
- It is editorial policy not to introduce taxonomic changes. This includes the naming of new taxa, placement of species into synonymy, the resurrection of species from synonymy or changing familial or generic placements.
- The World Register of Marine Species (WoRMS: www.marinespecies.org) checklist is considered the most appropriate resource to determine current valid species names, authorities & familial & generic placements. Give the authority & date, in parentheses where appropriate, after the first usage of each specific name if you can.

Please refer to past issues for an indication of the standard expected. If you are unsure about any of these guidelines or the suitability of your material, please consult the editor(s).

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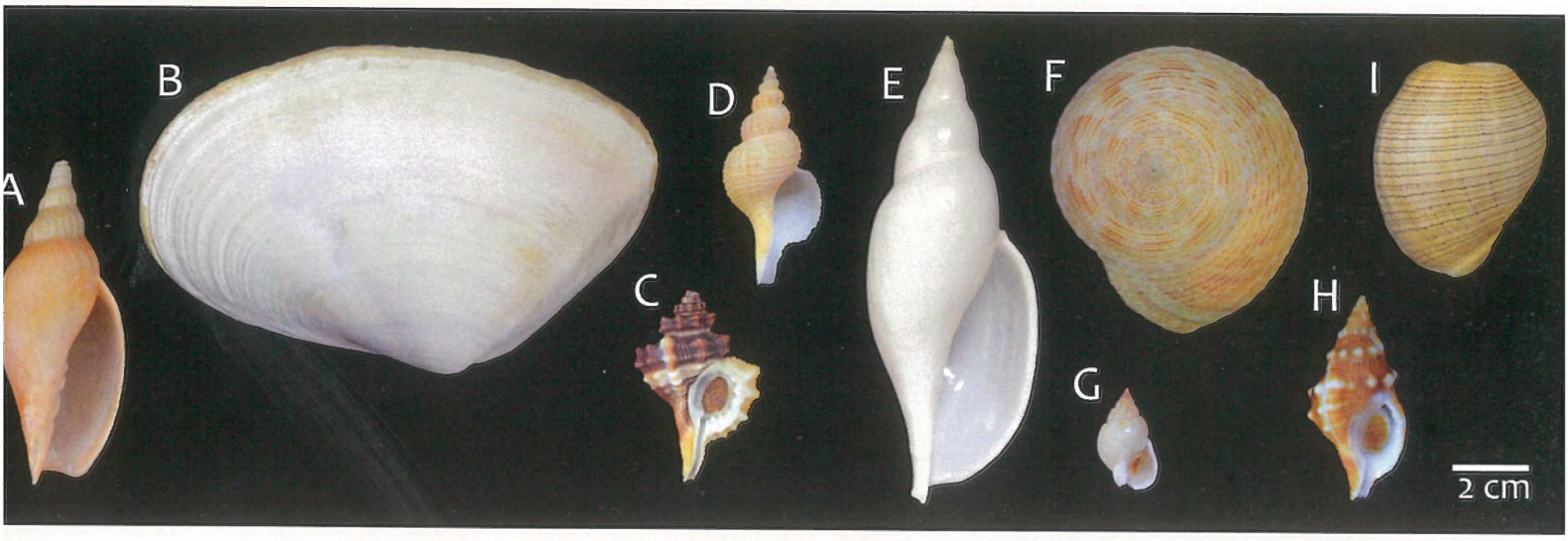

A) *Alcithoe pseudolutea* B) *Paphies ventricosa* C) *Monoplex exaratus*
D) *Glaphyrina caudata* E) *Provocator mirabilis* F) *Maurea turnerarum*
G) *Nassarius spiratus* H) *Sassia palmeri* I) *Hydatina physis*